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Suggested Title of Session in
which paper should be placed:

High Energy Colliders

An Asymmetric B-Factor Based on PEP, M.S. ZISMAN, Lawrence Berkeley Laboratory and A. HUTTON, SLAC, for the B-Factor Design Team*—The study of rare and CP-violating B-meson decays is well suited to a high-luminosity e^+e^- collider. For studying certain decay processes there are also substantial benefits associated with asymmetric beam energies, which give a moving center of mass for the B-mesons. We describe a design for a 9 GeV x 3.1 GeV B-factory in the PEP tunnel that would operate initially at a luminosity of $3 \times 10^{33} \text{ cm}^{-2}\text{s}^{-1}$. Technical problems include issues related to high currents (e.g., beam instabilities, feedback systems, lifetime degradation, and synchrotron radiation power dissipation) and those related to the heteroenergetic beams (e.g., beam separation, beam-beam interaction, and detector requirements). Approaches to these problems are described and issues requiring R&D effort are identified.

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